Abstract of the Disclosure

The subject invention concerns the novel use of formyl-CoA transferase enzyme together with oxalyl-CoA decarboxylase enzyme for the detection and measurement of oxalate in biological samples. The use of the enzyme system according to the subject invention results in the conversion of oxalate into carbon dioxide and formate. Because the production of formate is directly correlated to the concentration of oxalate present in a sample, the determination of the resulting formate concentration provides an accurate, sensitive and rapid means for detecting even low levels of oxalate. The subject invention further concerns the cloning, sequencing and expression of the genes that encode the formyl-CoA transferase enzyme and the oxalyl-CoA decarboxylase enzyme of *Oxalobacter formigenes*. The subject invention also concerns methods for detecting the presence of *Oxalobacter formigenes* organisms in a sample, and the polynucleotide probes and primers used in the detection method.